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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,550	01/14/2004	Shinichi Shoji	OMRNP073	5997

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EXAMINER	
KRAMSKAYA, MARINA	

ART UNIT	PAPER NUMBER
2858	

DATE MAILED: 11/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/758,550	SHOJI ET AL.	
	Examiner	Art Unit	
	Marina Kramskaya	2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3 and 13-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3 and 13-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 November 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/09/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 3 and 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz et al., US 6,819,316, in view of Kato et al., US 6,456,198.

As per Claim 3, Schultz discloses a capacitance sensor (**1**) having specified directionality, said capacitance sensor comprising:

detection electrodes (plurality of electrodes **9**);

an insulating material insulating said detection electrodes from each other (see column 8, lines 35-43, in particular lines 39-40); and

a main body (**1**) containing said detection electrodes (**9**) and said insulating material and having a detection surface (active area **2**) defined by said directionality, said detection surface having unevenness (unevenness of surface as shown in FIG. 2 & 3): and

a protective cover (**13**) covering said detection electrodes (**9**), said protective cover (column 9, lines 1-4) having a plurality of mutually adjacent protrusions with

thickness decreasing in the direction of protrusion (see FIG. 2 & 3 for a wavelike shape of the cover).

Schultz does not disclose

a shield electrode inside said main body, said shield electrode being open toward said detection surface, said detection electrodes being disposed inside said shield electrode; and

a protective cover covering said shield electrode and said detection electrodes.

Kato discloses a capacitive sensor comprising:

a shield electrode (composed of **73**, **74**) inside said main body (**61**), said shield electrode being open toward said detection surface (toward **54**), said detection electrodes (**71**) being disposed inside said shield electrode (See FIG. 7); and

a protective cover (case **61** and top member **54**) covering said shield electrode (composed of **73**, **74**) and said detection electrodes (**71**).

Therefore, it would have been obvious to a person of ordinary skill in the art to include a shield electrode and a protective cover, as taught by Kato in the sensor of Schultz, in order to protect the detection electrodes.

As per Claim 13, Schultz further discloses the capacitance sensor, wherein said mutually adjacent protrusions are directed externally (see FIG. 2 & 3).

As per Claim 14, Schultz, as modified, discloses the capacitance sensor as applied to Claim 13, above.

Schultz does not disclose said mutually adjacent protrusions serve to prevent water drops from becoming connected continuously.

Kato discloses an uneven surface, with a single protrusion, (triangular surface of **54**), which serves to prevent water drops from becoming connected continuously (i.e. water-repellent surface: column 4, lines 42-47).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a water-repellent surface as taught by Kato, in the sensor of Schultz, in order to prevent infiltration of moisture into the interior of the sensor, making it possible to keep the charge quantity on the chargeable member in the static state, and thus maintaining a high detection precision (Kato: column 4, lines 42-47).

As per Claims 15-17, Schultz, as modified, discloses the sensor as applied to Claims 3, 13, and 14, above.

Although, Schultz does not explicitly teach the protrusions oriented in a horizontal manner, the sensor of figure 1 may be oriented in any direction, therefore, placing the protrusions in a horizontal manner.

Response to Arguments

3. Applicant's arguments filed 09/21/2006 have been fully considered but they are not persuasive.

The applicant argument address the issue of water drop formation only, which is a limitation found in dependent Claim 14. Schultz teaches the structure of a capacitive sensor with a protective cover with adjacent protrusions. Kato teaches a capacitive sensor with a cover comprising a single protrusion (FIG. 6-7) that prevents water from becoming connected on that surface by providing a water repellent finish. Kato's sensor is intended for use outdoors where the capacitive sensor may be exposed to water. Therefore, there is an expectation for success if the teaching of Kato to provide a senor cover which repels water is incorporated with the teachings of Schultz, in order to prevent infiltration of moisture into the interior of the sensor.

As per Claims 15-17, Schultz's Figures 2 and 3 show the cross-sectional view of the sensor, in which the protrusions protrude vertically. However, this is not indicative of the orientation of the sensor as a whole. Therefore, the capacitive sensor may be oriented in such a manner that would place the protrusions of the protective cover in a horizontal manner.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marina Kramskaya whose telephone number is (571)272-2146. The examiner can normally be reached on M-F 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571)272-2168. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marina Kramskaya

Examiner
Art Unit 2858

MK.

M. Kramskaya

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